

2009 Research Days Abstract Form – Department of Ophthalmology – UNIFESP/EPM

2. SCIENTIFIC SECTION PREFERENCE (REQUIRED):

Review the Scientific Section Descriptions. Select and enter the two-letter Code for the one (1) Section best suited to review your abstract.

3. PRESENTATION PREFERENCE (REQUIRED) Check one:

- Paper  
 Poster  
 FAST Paper

4. The signature of the First (Presenting) Author (REQUIRED) acting as the authorized agent for all authors, hereby certifies that any research reported was conducted in compliance with the Declaration of Helsinki and the 'UNIFESP Ethical Committee'

\_\_\_\_Tiago S\_Prata\_\_\_\_\_

Scientific Section Descriptions (two-letter code):

- (BE) OCULAR BIOENGINEERING
- (CO) CORNEA AND EXTERNAL DISEASE
- (CA) CATARACT
- (EF) ELECTROPHYSIOLOGY
- (EP) EPIDEMIOLOGY
- (EX) EXPERIMENTAL SURGERY
- x(GL) GLAUCOMA
- (LA) LABORATORY
- (LS) LACRIMAL SYSTEM
- (LV) LOW VISION
- (NO) NEURO-OPHTHALMOLOGY
- (OR) ORBIT
- (PL) OCULAR PLASTIC SURGERY
- (PH) PHARMACOLOGY
- (RE) RETINA AND VITREOUS
- (RS) REFRACTIVE SURGERY
- (RX) REFRACTION-CONTACT LENSES
- (ST) STRABISMUS
- (TR) TRAUMA
- (TU) TUMORS AND PATHOLOGY
- (UV) UVEITIS
- (US) OCULAR ULTRASOUND

Deadline: Oct 12, 2009

FORMAT: Abstract should contain:

- Title
- Author, Co-authors (maximum 6),
- Purpose, Methods, Results,
- Conclusion.

Poster guidelines:  
 ARVO Abstract Book (1.10 x 1.70m)

28. FIRST (PRESENTING) AUTHOR (REQUIRED):

Must be the author listed first in abstract body.

- ( ) R1      ( ) R2      ( ) R3      ( ) PIBIC  
 ( ) PG0    ( x ) PG1    ( ) Fellow    ( ) Technician

Last Name: Prata

First Name: Tiago

Middle: S

Service (Sector): Glaucoma

CEP Number:

5. ABSTRACT (REQUIRED): **FACTORS ASSOCIATED WITH MORPHOLOGIC CHANGES OF THE OPTIC NERVE HEAD INDUCED BY ACUTE INTRAOCULAR PRESSURE REDUCTION IN GLAUCOMA PATIENTS**

Tiago S Prata, MD<sup>1,2</sup>; Verônica Castro Lima, MD<sup>1,2</sup>; Carlos GV de Moraes, MD<sup>2</sup>; Lia Manis Guedes<sup>1</sup>; Fernanda Pedreira Magalhães, MD<sup>1</sup>; Sergio Henrique Teixeira, MD<sup>1</sup>; Robert Ritch, MD<sup>2</sup>; Augusto Paranhos Jr, MD, PhD<sup>1</sup>.

<sup>1</sup>Department of Ophthalmology, Federal University of São Paulo, São Paulo, Brazil;

<sup>2</sup>Einhorn Clinical Research Center, The New York Eye and Ear Infirmary, New York, N

**Objective:** To investigate factors associated with changes in optic nerve head (ONH) topography after acute intraocular pressure (IOP) reduction in primary open-angle glaucoma (POAG) patients. **Methods:** Untreated POAG patients (IOP>21 mmHg) were prospectively enrolled. Systemic and ocular information were collected, including central corneal thickness (CCT) and corneal hysteresis (CH). All patients underwent confocal scanning laser ophthalmoscopy and tonometry (Goldmann) before and 1 hour after pharmacological IOP reduction. The mean of three measurements was considered for analysis. Changes in each ONH topographic parameter were assessed (one eye was randomly selected), and those that changed significantly were correlated with patient's systemic and ocular characteristics. **Results:** Forty-two patients were included (mean age, 66.7±11.8 years). Following a mean IOP reduction of 47.3±11.9%, significant changes were observed in cup area and volume, and rim area and volume (p<0.01), but not in mean cup depth (p=0.80). Multiple variable analyses (controlling for baseline IOP and magnitude of IOP reduction) showed that CH (r<sup>2</sup>≥0.16, p<0.01) and diabetes diagnosis (r<sup>2</sup>≥0.21, p<0.01) were negatively correlated with the degree of changes in ONH parameters, while cup-to-disc ratio was positively correlated (r<sup>2</sup>≥0.08, p≤0.04). Age, race, disc area and CCT were not significant (p≥0.12). Including all significant factors in a multivariate model, only the presence of diabetes remained significant for all parameters (p≤0.03). **Conclusions:** Different systemic and ocular factors, such as diabetes, CH and the relative size of the cup, seem to be associated with the degree of changes in ONH morphology after acute IOP reduction in POAG patients.

**Keywords:** optic nerve head; intraocular pressure; glaucoma.

Please keep the format using font VERDANA, 10